

AMENDMENTS TO THE CLAIMS

Please amend the claims as set forth in the claim listing provided below.

1. (currently amended) A process for preparing a 2-hydroxy carboxylic acid using a reusable catalyst, said process ~~comprises~~ comprising the steps of:

(a) carbonylating an enol ester with carbon monoxide and a hydroxyl compound in presence of a palladium catalyst and a solvent, at a temperature in the range ~~between of~~ 50-250°C, at a pressure in the range of 50- 2000 psig, to obtain a carbonylated ester, wherein the palladium catalyst comprises one or more organic ligands that contain an atom selected from the group consisting of an oxygen atom, a nitrogen atom, and a phosphorus atom; ~~and~~

(b) hydrolyzing the carbonylated ester with an acid catalyst at a temperature of 10-125°C to obtain a 2-hydroxy carboxylic acid; and

(c) separating the palladium catalyst for re-use .

2. (currently amended) The process of claim 1, wherein the molar concentration ratio of enol ester ~~and the~~ to palladium catalyst ~~are present in a molar concentration ratio is~~ is in the range of 25:1 to 1,000:1.

3. (currently amended) The process of claim 1, wherein the molar concentration ratio of hydroxyl compound ~~and the~~ to enol ester ~~are present in a molar concentration ratio is~~ is not less than one.

4. (currently amended) The process of claim 1, wherein the ~~carbonylation~~ palladium catalyst is recycled for the carbonylation step.

5. (original) The process of claim 1, wherein the enol ester is an organic compound having formula $R_1C=C(R_2)-O\text{-Acyl}$, where R_1 is H or an alkyl group containing 1-5 carbon atoms and R_2 is H or an alkyl group containing 1-5 carbon atoms.

6. (original) The process of claim 1, wherein the hydroxyl compound has a formula $R-OH$, wherein R is selected from the group consisting of H, a primary alkyl group containing 1-7 carbon atoms, a secondary alkyl group containing 1-7 carbon atoms, and a tertiary alkyl group containing 1-7 carbon atoms.

7. (original) The process of claim 6, wherein the hydroxyl compound is selected from the group of consisting of water, methanol, ethanol, propanol, isopropanol, butanol, isobutanol, t-butanol and pentanol.

8. (currently amended) The process of claim 1, wherein the palladium catalyst is selected from palladium (II) having formula AB_xC_y or palladium (0) compound having formula AB_xC_y , wherein
A is palladium,
B is an organic ligand containing one or more coordinating nitrogen and/or oxygen and/or phosphorus atoms,
C is a halogen atom selected from the group consisting of a F atom, a Cl atom, a Br atom and an I atom,
 $x+y$ is an integer ranging from 1 to 4, and
 x and y can vary independently in the range of 0 to 4.

9. (original) The process of claim 1, wherein the palladium catalyst is selected from the group consisting of palladium chloride, palladium bromide, palladium iodide, palladium acetate, and metal complex of palladium.

10. (currently amended) The process of claim 9, wherein the metal complex of palladium is ~~seleted~~ selected from the group consisting of bis(acetylacetonato)palladium(II), bis(triphenylphosphine)dichloropalladium(II), bis(triphenylphosphine)dibromopalladium (II), bis(triphenylphosphine)diiodopalladium (II), bis(pyridine)dichloropalladium(II), bis(pyridine)diiodopalladium(II), bis(pyridine)diiodopalladium(II), bis(acetonitrile)dichloropalladium(II), bis(benzonitrile)dichloropalladium(II), and tetrakis(triphenylphosphine)palladium(0).

11. (currently amended) The process of claim 1, wherein the organic ligand is ~~a compound containing one or more coordinating O atoms~~ selected from the group consisting of acetyl acetate, salicylaldehyde, and p-toluenesulphonic acid.

12. (currently amended) The process of claim 1, wherein the organic ligand is ~~a compound containing one or more coordinating N atoms~~ selected from the group consisting of pyridine, piperidine, triethyl amine, tributyl amine, quinoline, isoquinoline, o-phenylenediamine, and p-phenylenediamine, ethylenediamine.

13. (currently amended) ~~The process of claim 1~~ A process for preparing a 2-hydroxy carboxylic acid using a reusable catalyst, said process comprising the steps of:

(a) carbonylating an enol ester with carbon monoxide and a hydroxyl compound in the presence of a palladium catalyst and a solvent, at a temperature in the range of 50-250°C, at a pressure in the range of 50- 2000 psig, to obtain a carbonylated ester, wherein the palladium catalyst comprises one or more organic ligand that contains an atom selected from the group consisting of oxygen, nitrogen, and phosphorus and

(b) hydrolyzing the carbonylated ester with an acid catalyst at a temperature of 10-125°C to obtain a 2-hydroxy carboxylic acid,
wherein the organic ligand is ~~a compound containing one or more coordinating N and O atoms~~ selected from the group consisting of 8-hydroxy quinoline, bis(saliylidene)ethylenediamine, salicylaldoxime, picolinic acid, nicotinic acid, and anthranilic acid.

14. (currently amended) The process of claim 1, wherein the organic ligand is ~~a compound containing one or more P atoms~~ selected from the group consisting of trimethyl phosphine, triethyl phosphine, tri-n-butyl phosphine, phosphine, triphenyl phosphine, bis(dicyclohexylphosphinobutane), bis(diphenylphosphinopropane), and bis(diphenylphosphinohexane).

15. (original) The process of claim 1, wherein the solvent is an organic solvent selected from the group consisting of toluene, benzene, chloroform, dichloromethane, dichloroethane, chlorobenzene, o-dichlorobenzene, p-dichlorobenzene, ketone, cyclic ether, and nitrile.

16. (original) The process of claim 15, wherein the ketone is selected from the group consisting of acetone, ethyl methyl ketone, diethyl ketone, and acetophenone.

17. (original) The process of claim 15, wherein the cyclic ether is selected from the group consisting of tetrahydrofuran and dioxan.

18. (original) The process of claim 15, wherein the nitrile is selected from the group consisting of acetonitrile and benzonitrile.

19. (currently amended) The process of claim 1, ~~further comprising~~
~~separating wherein the palladium catalyst is separated~~ by vacuum distillation or solvent
extraction ~~the palladium catalyst~~.

20. (original) The process of claim 1, wherein the acid catalyst is
selected from the group consisting of p-toluene sulphonic acid, aqueous hydrochloric
acid, and a resin.

21. (original) The process of claim 1, wherein the hydrolysis catalyst is
recycled for the hydrolysis step.

22. (original) The process of claim 1, further comprising separating by
vacuum distillation or solvent extraction the acid catalyst.

23. (original) The process of claim 1, wherein the 2-hydroxy carboxylic
acid is lactic acid.